BRUHAT BENGALURU MAHANAGARA PALIKE, YELAHANKA DIVISION

Bruhat Bengaluru Mahanagara Palike

Name of work:"Asphalting to roads at chowdappa layout , Maruthi Layout, Hillside Medows and surrounding areas in ward no -03 Yelahanka Satellite Town sub Division"

QUALITY CONTROL REPORTS

"THIRD AND FINAL BILL"

Mob : 99457 44759

Shriya Construction and Consultancy

1133, 3rd Floor, 3rd Stage, 'B' Cross, Yelahanka New Town, Bangalore - 560 064.

NName of work:"Asphalting to roads at chowdappa layout , Maruthi Layout, Hillside Medows and surrounding areas in ward no -03 Yelahanka Satellite Town sub Division"

Quality Control Abstract

Job code:003-20-000077

Bill Number: First & Final Bill

Name of contractor: M/S KRIDL, Bangalore

Sl No.	Description of Materials	Test	No of Units Tested	No of samples conducted	Test result	Remarks
1	Test on Bitumen - Course Aggrigates	Compressive Strength (IS 516-1959)	Per Batch	Per Batch	Satisfactory	-
2	Tests on Bitumen VG-30	As per Morth	Per Batch	Per Batch	Satisfactory	-
3	Extraction and Gradation Test on Asphalt	As per Morth	Per Batch	Per Batch	Satisfactory	-
4	Properties of Asphalt	IS: 383-1970	Per Batch	Per Batch	Satisfactory	-

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BBMP/YD/CHOW/BIT VG-30 **Date: 09-08-2021**

1. TEST REPORT ON BITUMEN SAMPLE:

Sub: Testing of Bitumen sample VG-30 Grade.

Name of Work:- Asphalting to roads at chowdappa layout , Maruthi Layout, Hillside Medows and surrounding areas in ward no -03 Yelahanka Satellite Town sub Division.

Ref.: Material testing/PMC/21-22,

Report Submitted to : Assistant Executive Engineer,
Yelahanka Sub Division,
BBMP, Bangalore.

Name of the Agency/Contractor*: M/S KRIDL, Bangalore.

Technical Reference: Ministry of Road Transport and Highways, V Revision, 2013 and IS 73: 1992.

TABLE 1.1 ;

SL No	Details	Test Results	Requirements as per I.S 73 –1992 Specifications
1.	Penetration at 25⁰ C	**53.10⁰ C**	Min. 45
2.	Ductility Value at 25⁰ C	**108.50 cm**	40
3.	Flash point	**245⁰ C**	Minimum 220⁰ C
4.	Softening point	**52.10⁰ C**	Min. 47

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BBMP/YD/CHOW/BIT-CA **Date: 09-08-2021**

1. TEST REPORT ON COARSE AGGREGATE:

Sub: Testing of Coarse Aggregate used in Bituminous Macadam.

Name of Work:- Asphalting to roads at chowdappa layout , Maruthi Layout, Hillside Medows and surrounding areas in ward no -03 Yelahanka Satellite Town sub Division.

Ref.: Material testing/PMC/21-22,

Report Submitted to : Assistant Executive Engineer,
Yelahanka Sub Division,
BBMP, Bangalore.

Name of the Agency/Contractor*: M/S KRIDL, Bangalore.

TABLE 1.1 ;

SL No	Test conducted	Test Results	Tests Conforms to IS 2386(Part I to IV)–1963 (Reaffirmed on 2002) & Requirements as per IS:383-1970 & M.o.R.T.H Specification, V Revision -2013.
1.	Aggregate Impact Value	**22.10%**	Not more than 27.00 % for DBM
2.	Combined Flakiness and Elongation index, %	**25.14%**	Not more than 35.0 %
3.	Water absorption, %	**0.45%**	Not more than 2.0 %
4.	Specific gravity	**2.62**	-------
5.	Soundness	**6.79 %**	Max. 12 % in Sodium Sulphate

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BBMP/YD/CHOW/BIT-STB **Date: 09-08-2021**

1.TEST REPORT ON BITUMINOUS MIXES :

(STABILITY OF BITUMINOUS MIX)

Name of Work:- Asphalting to roads at chowdappa layout , Maruthi Layout, Hillside Medows and surrounding areas in ward no -03 Yelahanka Satellite Town sub Division.

Ref.: Material testing/PMC/21-22,

Report Submitted to : Assistant Executive Engineer,
Yelahanka Sub Division,
BBMP, Bangalore.

Name of the Agency/Contractor*: M/S KRIDL, Bangalore.

TEST RESULTS

Table 1: Properties of BM (Gr-2) Mix

Sl. No.	Test Property	*Test results obtained by Marshall method	Requirements of Dense Bituminous Macadam, Grade-2 as per M.o.R.T&H (IV Revision)-2001 Specifications
1	Marshall Stability (75 blows) (At 60°C), kgs.	**1239**	900
2	Marshall Flow at 60°C, mm.	**3.20**	2.0 - 4.0

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BBMP/YD/CHOW/BIT-EX

Date: 09-08-2021

1.TEST REPORT ON BITUMINOUS MIXES :

(BITUMEN EXTRACTION TEST & GRADATION TEST)

Sub: To determine the percentage of bitumen and gradation for BM mix sample.

Name of Work:- Asphalting to roads at chowdappa layout , Maruthi Layout, Hillside Medows and surrounding areas in ward no -03 Yelahanka Satellite Town sub Division.

Ref.: Material testing/PMC/21-22,

Report Submitted to : Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.

Name of the Agency/Contractor*: M/S KRIDL, Bangalore.

TEST RESULTS

A. Type of Construction **Bituminous Macadam.**

1. The bitumen content obtained after subjecting the sample for Bitumen Extraction test = **4.50 %**

2. **Gradation Test**

TABLE 1.1

Sieve Size, mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Gradation requirement as per Table 500-10 of MORTH Specfications-2013 DBM (Grading - 2)
37.5	100	100
26.5	96.44	90-100
19.0	80.56	71-95
13.20	72.61	56-80
4.75	47.09	38-54
2.36	35.79	28-42
0.300	18.26	7-21
0.075	5.16	2-8

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BBMP/YD/CHOW/BIT

Date: 09-08-2021

1.TEST REPORT ON BITUMINOUS MIXES :

(STABILITY OF BITUMINOUS MIX)

Sub: To determine the stability of bituminous mix for BM mix sample.

Name of Work:- Asphalting to roads at chowdappa layout , Maruthi Layout, Hillside Medows and surrounding areas in ward no -03 Yelahanka Satellite Town sub Division.

Ref.: Material testing/PMC/21-22,

Report Submitted to : Assistant Executive Engineer,
Yelahanka Sub Division,
BBMP, Bangalore.

Name of the Agency/Contractor*: M/S KRIDL, Bangalore.

TEST RESULTS

Table 1: Properties of BM (Gr-2) Mix

Sl. No.	Test Property	*Test results obtained by Marshall method	Requirements of Dense Bituminous Macadam, Grade-2 as per M.o.R.T&H (IV Revision)-2001 Specifications
1	Marshall Stability (75 blows) (At 60°C), kgs.	**1255**	900
2	Marshall Flow at 60°C, mm.	**3.42**	2.0 - 4.0

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BBMP/YD/CHOW/BIT-EX

Date: 07-08-2021

1.TEST REPORT ON BITUMINOUS MIXES :

(BITUMEN EXTRACTION TEST & GRADATION TEST)

Sub: To determine the percentage of bitumen and gradation for BM mix sample.

Name of Work:- Asphalting to roads at chowdappa layout , Maruthi Layout, Hillside Medows and surrounding areas in ward no -03 Yelahanka Satellite Town sub Division.

Ref.: Material testing/PMC/21-22,

Report Submitted to : Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.

Name of the Agency/Contractor*: M/S KRIDL, Bangalore.

TEST RESULTS

A. Type of Construction : **Bituminous Macadam.**

1. The bitumen content obtained after subjecting the sample for Bitumen Extraction test = **4.56 %**

2. **Gradation Test**

TABLE 1.1

Sieve Size, mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Gradation requirement as per Table 500-10 of MORTH Specfications-2013 DBM (Grading - 2)
37.5	100	100
26.5	97.13	90-100
19.0	82.12	71-95
13.20	71.42	56-80
4.75	48.68	38-54
2.36	32.07	28-42
0.300	18.88	7-21
0.075	6.58	2-8

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BBMP/YD/CHOW/BIT-EX

Date: 07-08-2021

1.TEST REPORT ON BITUMINOUS MIXES :

(BITUMEN EXTRACTION TEST & GRADATION TEST)

Sub: To determine the percentage of bitumen and gradation for BM mix sample.

Name of Work:- Asphalting to roads at chowdappa layout , Maruthi Layout, Hillside Medows and surrounding areas in ward no -03 Yelahanka Satellite Town sub Division.

Ref.: Material testing/PMC/21-22,

Report Submitted to : Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.

Name of the Agency/Contractor*: M/S KRIDL, Bangalore.

TEST RESULTS

A. Type of Construction : **Bituminous Macadam.**

1. The bitumen content obtained after subjecting the sample for Bitumen Extraction test = **4.55 %**

2. **Gradation Test**

Sieve Size, mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Gradation requirement as per Table 500-10 of MORTH Specfications-2013 DBM (Grading - 2)
37.5	100	100
26.5	95.00	90-100
19.0	82.35	71-95
13.20	74.85	56-80
4.75	46.95	38-54
2.36	33.90	28-42
0.300	17.15	7-21
0.075	6.40	2-8

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BBMP/YD/CHOW/BIT-STB **Date: 07-08-2021**

1.TEST REPORT ON BITUMINOUS MIXES :

(STABILITY OF BITUMINOUS MIX)

Sub: To determine the stability of bituminous mix for BM mix sample.

Name of Work:- Asphalting to roads at chowdappa layout , Maruthi Layout, Hillside Medows and surrounding areas in ward no -03 Yelahanka Satellite Town sub Division.

Ref.: Material testing/PMC/21-22,

Report Submitted to : Assistant Executive Engineer,
Yelahanka Sub Division,
BBMP, Bangalore.

Name of the Agency/Contractor*: M/S KRIDL, Bangalore.

TEST RESULTS

Table 1: Properties of BM (Gr-2) Mix

Sl. No.	Test Property	*Test results obtained by Marshall method	Requirements of Dense Bituminous Macadam, Grade-2 as per M.o.R.T&H (IV Revision)-2001 Specifications
1	Marshall Stability (75 blows) (At 60°C), kgs.	1230	900
2	Marshall Flow at 60°C, mm.	3.25	2.0 - 4.0

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BBMP/YD/CHOW/BIT-STB

Date: 09-08-2021

1.TEST REPORT ON BITUMINOUS MIXES :

(STABILITY OF BITUMINOUS MIX)

Sub: To determine the stability of bituminous mix for BC mix sample.

Name of Work:- Asphalting to roads at chowdappa layout , Maruthi Layout, Hillside Medows and surrounding areas in ward no -03 Yelahanka Satellite Town sub Division.

Ref.: Material testing/PMC/21-22,

Report Submitted to : Assistant Executive Engineer,
Yelahanka Sub Division,
BBMP, Bangalore.

Name of the Agency/Contractor*: M/S KRIDL, Bangalore.

TEST RESULTS

Table 1: Properties of BC (Gr-2) Mix

Sl. No.	Test Property	*Test results obtained by Marshall method	Requirements of Bituminous Concrete, Grade-2 as per M.o.R.T&H (V Revision)-2013 Specifications
1	Marshall Stability (75 blows) (At 60°C), kgs.	**1345**	900
2	Marshall Flow at 60°C, mm.	**3.32**	2.0 - 4.0

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BBMP/YD/CHOW/BIT-EX

Date: 09-08-2021

1.TEST REPORT ON BITUMINOUS MIXES :

(BITUMEN EXTRACTION TEST & GRADATION TEST)

Sub: To determine the percentage of bitumen and gradation for BC mix sample.

Name of Work:- Asphalting to roads at chowdappa layout , Maruthi Layout, Hillside Medows and surrounding areas in ward no -03 Yelahanka Satellite Town sub Division.

Ref.: Material testing/PMC/21-22,

Report Submitted to : Assistant Executive Engineer,
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BBMP, Bangalore.

Name of the Agency/Contractor*: M/S KRIDL, Bangalore.

TEST RESULTS

A. Type of Construction : **Bituminous Concrete**

1. The bitumen content obtained after subjecting the sample for Bitumen Extraction test = **5.43 %**

2. **Gradation Test**

Sieve Size, mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Gradation requirement as per Table 500-17 of MORTH Specfications-2013 BC (Grading - 2)
19.0	100	100
13.2	95.00	90-100
9.5	81.40	70-88
4.75	65.90	53-71
2.36	52.30	42-58
1.18	44.75	34-48
0.600	30.25	26-38
0.300	24.80	18-28
0.150	18.65	12-20
0.075	7.00	4-10

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BBMP/YD/CHOW/BIT-STB

Date: 09-08-2021

1.TEST REPORT ON BITUMINOUS MIXES :

(STABILITY OF BITUMINOUS MIX)

Sub: To determine the stability of bituminous mix for BC mix sample.

Name of Work:- Asphalting to roads at chowdappa layout , Maruthi Layout, Hillside Medows and surrounding areas in ward no -03 Yelahanka Satellite Town sub Division.

Ref.: Material testing/PMC/21-22,

Report Submitted to : Assistant Executive Engineer,
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BBMP, Bangalore.

Name of the Agency/Contractor*: M/S KRIDL, Bangalore.

TEST RESULTS

Table 1: Properties of BC (Gr-2) Mix

Sl. No.	Test Property	*Test results obtained by Marshall method	Requirements of Bituminous Concrete, Grade-2 as per M.o.R.T&H (V Revision)-2013 Specifications
1	Marshall Stability (75 blows) (At 60°C), kgs.	1365	900
2	Marshall Flow at 60°C, mm.	3.42	2.0 - 4.0

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BBMP/YD/CHOW/BIT-EX

Date: 11-08-2021

1.TEST REPORT ON BITUMINOUS MIXES :

(BITUMEN EXTRACTION TEST & GRADATION TEST)

Sub: To determine the percentage of bitumen and gradation for BC mix sample.

Name of Work:- Asphalting to roads at chowdappa layout , Maruthi Layout, Hillside Medows and surrounding areas in ward no -03 Yelahanka Satellite Town sub Division.

Ref.: Material testing/PMC/21-22,

Report Submitted to : Assistant Executive Engineer,
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BBMP, Bangalore.

Name of the Agency/Contractor*: M/S KRIDL, Bangalore.

TEST RESULTS

A. Type of Construction : **Bituminous Concrete**

1. The bitumen content obtained after subjecting the sample for Bitumen Extraction test = **5.40%**

2. **Gradation Test**

Sieve Size, mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Gradation requirement as per Table 500-17 of MORTH Specfications-2013 BC (Grading - 2)
19.0	100	100
13.2	94.25	90-100
9.5	82.10	70-88
4.75	68.35	53-71
2.36	52.80	42-58
1.18	45.30	34-48
0.600	31.75	26-38
0.300	23.65	18-28
0.150	18.05	12-20
0.075	6.90	4-10

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BBMP/YD/CHOW/BIT-STB

Date: 12-08-2021

1.TEST REPORT ON BITUMINOUS MIXES :

(STABILITY OF BITUMINOUS MIX)

Sub: To determine the stability of bituminous mix for BC mix sample.

Name of Work Asphalting to roads at chowdappa layout , Maruthi Layout, Hillside Medows and surrounding areas in ward no -03 Yelahanka Satellite Town sub Division.

Ref.: Material testing/PMC/21-22,

Report Submitted to : Assistant Executive Engineer,
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BBMP, Bangalore.

Name of the Agency/Contractor*: M/S KRIDL, Bangalore.

TEST RESULTS

Table 1: Properties of BC (Gr-2) Mix

Sl. No.	Test Property	*Test results obtained by Marshall method	Requirements of Bituminous Concrete, Grade-2 as per M.o.R.T&H (V Revision)-2013 Specifications
1	Marshall Stability (75 blows) (At 60°C), kgs.	1346	900
2	Marshall Flow at 60°C, mm.	3.30	2.0 - 4.0

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P/YD/CHOW/BIT-EX

Date: 12-08-2021

ST REPORT ON BITUMINOUS MIXES :

(BITUMEN EXTRACTION TEST & GRADATION TEST)

: To determine the percentage of bitumen and gradation for BC mix sample.

ne of Work:- Asphalting to roads at chowdappa layout , Maruthi Layout, Hillside dows and surrounding areas in ward no -03 Yelahanka Satellite Town sub Division.

f.: Material testing/PMC/21-22,

port Submitted to : Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.

ıme of the Agency/Contractor*: M/S KRIDL, Bangalore.

TEST RESULTS

A. Type of Construction : **Bituminous Concrete**

1. The bitumen content obtained after subjecting the sample for Bitumen Extraction test = **5.45 %**

2. **Gradation Test**

Sieve Size, mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Gradation requirement as per Table 500-17 of MORTH Specfications-2013 BC (Grading - 2)
19.0	100	100
13.2	96.80	90-100
9.5	83.25	70-88
4.75	67.90	53-71
2.36	52.65	42-58
1.18	45.10	34-48
0.600	33.70	26-38
0.300	25.55	18-28
0.150	18.45	12-20
0.075	6.15	4-10

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BMP/YD/CHOW/BIT-STB Date: 12-08-2021

L.TEST REPORT ON BITUMINOUS MIXES :

(STABILITY OF BITUMINOUS MIX)

Sub: To determine the stability of bituminous mix for BC mix sample.

Name of Work Asphalting to roads at chowdappa layout , Maruthi Layout, Hillside Medows and surrounding areas in ward no -03 Yelahanka Satellite Town sub Division.

Ref.: Material testing/PMC/21-22,

Report Submitted to : Assistant Executive Engineer,
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BBMP, Bangalore.

Name of the Agency/Contractor*: M/S KRIDL, Bangalore.

TEST RESULTS

Table 1: Properties of BC (Gr-2) Mix

Sl. No.	Test Property	*Test results obtained by Marshall method	Requirements of Bituminous Concrete, Grade-2 as per M.o.R.T&H (V Revision)-2013 Specifications
1	Marshall Stability (75 blows) (At 60°C), kgs.	1360	900
2	Marshall Flow at 60°C, mm.	3.55	2.0 - 4.0

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